

Kentucky Public Service Commission

Case Number 2012-00428

Consideration of the Implementation of Smart Grid and Smart Meter Technologies

Public Meeting Presentation
December 16 & 17, 2014

In this presentation:

1. Background
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SMART GRID DEFINED

Broad definition: Technologies that use two-way communication (wired or wireless) to monitor and operate electric transmission and distribution systems and to provide customers with usage and price information

- **Transmission systems**

- Smart technology in wide use in Kentucky
- SCADA (supervisory control and data acquisition) systems
- Outage monitoring systems

- **Distribution grid**

- Smart technology also widely deployed – both SCADA and outage monitoring

- **Distribution grid – customer level**

- Smart meters that allow two-way communication
- Real-time usage and price data – in-home displays or online
- Prerequisite for implementation of time-of-day or time-of-use rates
- Potential links to smart-grid-capable appliances
- Some deployments in Kentucky

NOT SMART GRID

AUTOMATED METER READING (AMR) TECHNOLOGY

- One-way meters that can only transmit the total meter reading at a point in time
- In wide use in Kentucky
- Not at issue in current proceeding

DIGITAL METERS

- Differ only from analog meters in type of readout (unless they are also AMR or smart meters)
- Replacing analog meters, which are no longer being manufactured domestically

HISTORY

- PSC has looked at smart grid twice before
- **Energy Policy Act of 2005**
 - Utilities to offer optional time-of-day rates and necessary advanced meters.
 - 2006 - PSC chose not to adopt the standards
 - Required 5 generation-owning electric utilities to offer time-based rates to their largest customers
- **Energy Independence and Security Act of 2007**
 - PSC to again required to consider the adoption of federal smart grid standards
 - October 2011: PSC adopts federal standard requiring electric utilities to consider the use of smart grid technologies when investing in transmission and distribution systems
 - Utilities objected and raised additional issues
 - September 2012: PSC decides to defer a final decision
 - September 2012: PSC opens current administrative proceeding

PARTIES TO THE CASE

BY PSC ORDER

All jurisdictional electric utilities

- 4 investor-owned utilities
- 2 generation & transmission cooperatives
- 19 distribution cooperatives

Five major natural gas distribution companies

INTERVENORS

Kentucky Office of Attorney General (AG)

- By statute, represents ratepayers as a whole

Community Action Council (CAC) for Lexington-Fayette,
Bourbon, Harrison and Nicholas Counties

- Represent interests of low-income ratepayers

THE CASE THUS FAR

- Initial data requests from PSC and AG and responses
- Second round of PSC staff data requests/responses
- Joint report of the utilities filed June 30, 2014, with comments from AG and CAC
- No hearing requested

ISSUES AND POSITIONS

ISSUE: CUSTOMER PRIVACY

What additional customer privacy protections are necessary to safeguard the information that utilities will be able to collect if they deploy smart meters?

ISSUE:

CUSTOMER PRIVACY

Utility position: Existing privacy protections for confidential information are adequate. Utilities propose a set of common definitions for developing internal privacy policies.

AG position: State-mandated privacy policy, enforced with penalties for violators, is essential.

CAC position: Non-profit agencies assisting customers should have access to needed information, including aggregated information.

ISSUE:

OPT-OUT PROVISIONS

Should customers be allowed to opt out of smart meter deployment? If so, how should the associated costs be allocated?

ISSUE:

OPT-OUT PROVISIONS

Utility position: Oppose broad provision permitting opt-outs, but believe utilities should be allowed to establish provisions appropriate for their systems. Cost issues should be addressed on case-by-case basis. (No opt-out for AMR.)

AG position: Opt-outs should be permitted, including for digital meters. No position on cost recovery.

CAC position: Opt-outs should be permitted at no cost to customers.

ISSUE: CUSTOMER EDUCATION

What type of education efforts should be required prior to any broad deployment of smart meter technology by a utility?

ISSUE:

CUSTOMER EDUCATION

Utility position: Customer education efforts should include information about benefits and features of smart grid technology and address concerns about privacy and health issues. No mandatory education standards.

AG position: No additional comments.

CAC position: Customer education should be mandatory prior to smart meter deployment.

ISSUE: DYNAMIC PRICING

If smart meters are deployed, should utilities be required to offer dynamic pricing (time-of-day , time-of-use or demand-based rates) to all customers?

ISSUE: DYNAMIC PRICING

Utility position: Dynamic pricing should be offered at the utility's option, but should not be a mandatory offering.

AG position: Customers should never be required to participate in dynamic pricing. Additionally, the PSC should never require mandatory time-of-use rates.

CAC position: Customers should never be required to participate in dynamic pricing.

ISSUE:

DISTRIBUTION SYSTEM COMPONENTS

Provide an overview of distribution system smart grid components, including current deployments, availability, issues of obsolescence and criteria for determining future investments.

ISSUE:

DISTRIBUTION SYSTEM COMPONENTS

Utility position: Deployments should be based upon analysis of costs and benefits, including likely life cycle of components. Additional regulation is not needed, as these issues can be addressed through current PSC processes.

AG position: No additional comments.

CAC position: Careful oversight is required for any technology deployment that allows for prepaid metering or remote disconnections.

ISSUE: CYBER SECURITY

Are additional requirements or standards needed to safeguard smart grid systems against cyber intrusions, both to secure the grid and to protect customer information?

ISSUE: CYBER SECURITY

Utility position: Transmission-owning utilities already must comply with cyber security requirements for those systems. Standards are in place for overall cyber security measures. No additional regulation is necessary.

AG position: The PSC should mandate compliance with all cyber security standards, including those that are now voluntary.

CAC position: Utilities should take all reasonable measures to prevent and defeat cyber attacks.

ISSUE: NATURAL GAS UTILITIES

What smart grid technologies transfer to the natural gas sector? Can natural gas utilities intersect with the electric smart grid?

ISSUE:

NATURAL GAS UTILITIES

Utility position: Natural gas utilities do not employ dynamic pricing. For that reason and others, the applicability of smart technology to the gas sector is limited largely to system monitoring. Such technology is currently being used. Some potential exists for interoperability.

AG position: No further comments.

CAC position: No further comments.

ISSUE: COST RECOVERY

What is the appropriate avenue for recovering the costs of smart grid technology deployments? What is the proper treatment for unrecovered costs of early retirements?

ISSUE:

COST RECOVERY

Utility position: Full and timely recovery of prudently incurred smart grid costs should be assured using a variety of mechanisms currently in place. This should extend to unrecovered costs of replaced equipment.

AG position: No additional comments, but all costs must be examined on a case-by-case basis.

CAC position: No additional comments.

ISSUE:

2007 ENERGY ACT STANDARDS

Should the Kentucky PSC adopt the Grid Information and Investment Standards of the federal Energy Independence and Security Act of 2007, which require consideration of the use of smart grid technology prior to any decisions to upgrade transmission and distribution systems?

ISSUE:

2007 ENERGY ACT STANDARDS

Utility position: The EISA standards should not be adopted because they do not allow for the flexibility that each utility needs to deploy or adapt smart grid technology to meet its own unique circumstances.

AG position: Agrees with the utility position.

CAC position: No additional comments.

WHAT'S NEXT

- Final briefs from parties due by 2/27/2015
- Written public comments taken through 2/27/2015
- PSC decision likely in 2015

THANK YOU

QUESTIONS??